

# CHAPTER 1

## Introduction

With the completion of its 1994 assessment program, the National Assessment of Educational Progress (NAEP) concluded its 25th year as the only nationally representative and continuous assessment of what America's students know and can do in various subject areas. This report, which highlights selected portions of the 1994 Reading Assessment results, is a *first look* into the reading assessment program that was conducted during this milestone year. The complete results of the assessment will be presented in the forthcoming *NAEP 1994 Reading Report Card*.

This report provides a discussion of the initial findings for public and nonpublic school students in grades 4, 8, and 12 across the nation. The report also presents state-level findings for representative samples of fourth-grade public school students in jurisdictions that participated in NAEP's 1994 Trial State Assessment Program in Reading. State-level results for nonpublic schools will appear in the *NAEP 1994 Reading Report Card*.

## The National Assessment of Educational Progress (NAEP)

NAEP is a congressionally mandated survey administered by the National Center for Education Statistics, U.S. Department of Education. Since 1969, NAEP has reported on the educational achievement of American students and provided accurate and useful information to parents, educators, and policymakers at the national, state, and local levels. NAEP has become an integral part of our nation's evaluation of the condition and progress of education.

Since its beginning, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, history, geography, and other fields. The 1994 NAEP program included assessments in reading, United States history, and world geography.

## The NAEP National Sample

The 1994 NAEP assessment was based on a national probability sample of public and nonpublic school students enrolled in fourth, eighth, and twelfth grade. The sample was selected using a stratified, three-stage sampling plan.

This sampling process resulted in the selection of three grade-specific, national samples of approximately 7,400 fourth-grade students, 10,000 eighth-grade students, and 10,000 twelfth-grade students. Detailed information regarding the student and school national sample sizes and participation rates is presented in Tables A.1 and A.2 in Appendix A. The national sample includes students attending domestic Department of Defense schools and Bureau of Indian Affairs schools. Students attending Department of Defense Education Activity (DoDEA) Overseas Schools and schools in Guam are not included in the national sample but are included as jurisdictions in the 1994 Trial State Assessment.

## The NAEP Trial State Assessment Program

In response to legislation passed by Congress in 1988, the NAEP program includes voluntary state-by-state assessments. The state assessment program was initiated in 1990 on a trial basis with an assessment of the mathematics achievement of eighth-grade students in public schools. These efforts were expanded in the 1992 assessment, in which public school students were assessed in fourth-grade reading and fourth- and eighth-grade mathematics.

The 1994 Trial State Assessment Program was comprised of state-by-state reading assessments of fourth-grade students attending public and nonpublic schools. Forty-four jurisdictions participated in the voluntary program (see Figure 1). To help ensure valid state-by-state results, the 1994 Trial State Assessment Program established a number of school and student participation rate standards that jurisdictions were required to meet (see Appendix A for details). Two states, Idaho and Michigan, did not meet minimum school participation guidelines for public schools; therefore, their public school results are not presented in this report. Several other states failed to meet more stringent participation rate standards; results for these jurisdictions are included in the report but are properly noted in the relevant tables and appendices. Another jurisdiction, Washington, DC, withdrew from the Trial State Assessment after the data collection phase. Results for Washington, DC, are not contained in this report. The sample selection process yielded student sample sizes typically in excess of 2,500 students for each participating jurisdiction. A tabular description of the school and student samples at the state-level and related participation rates is presented in Table A.2 in Appendix A.



The reading exercise section included reading passages and associated questions designed to assess students' reading comprehension. The booklets were distributed randomly to the students and required about one hour to complete.

## NAEP Proficiency Scale

Student responses to the 1994 NAEP Reading Assessment were analyzed to determine the percentage of students responding correctly to each multiple-choice question and the percentage of students responding in each of the score categories for constructed-response questions. Item response theory (IRT) methods were used to produce scales that summarize results for each of the three purposes for reading. An overall composite scale was developed by weighting the separate purposes for reading scales based on the relative importance of each purpose in the NAEP reading framework. The resulting 0 to 500 scale, which is linked to the 1992 reading scale through IRT equating procedures, is the reporting metric used in Chapter 2 to present results.

## Achievement Levels

In addition to the NAEP proficiency scale, this report also presents data using the reading achievement levels as authorized by the NAEP legislation and adopted by the National Assessment Governing Board (NAGB)<sup>1</sup>. The achievement levels are based on collective judgments, gathered from a broadly representative panel of teachers, education specialists, and members of the general public, about what students should know and be able to do relative to a body of content reflected in the NAEP assessment frameworks. For reporting purposes, the achievement level cut scores for each grade are placed on the traditional NAEP scale resulting in four ranges: *Basic*, *Proficient*, *Advanced*, and the region *below Basic*. It should be noted that the achievement level cut scores presented on the following page are different from those used in the 1992 reading assessment reports. The reason why revisions were made to the cut scores is explained in Appendix F. The definitions of the three achievement levels are presented below.

<b>Basic</b>	This level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
<b>Proficient</b>	This level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real world situations, and analytical skills appropriate to the subject matter.
<b>Advanced</b>	This level signifies superior performance.

It should be noted that the setting of achievement levels on the National Assessment is relatively new and in transition. There have been evaluations which concluded that the percentages of students at certain levels may be underestimated.<sup>2</sup> On the other hand, there have been critiques of those evaluations, which found that such conclusions were not supported by the weight of the empirical evidence present in the evaluations.<sup>3</sup>

The student achievement levels in this report have been developed carefully and responsibly, and have been subject to refinements and revisions in procedures as new technologies have become available. Upon review of the available information, the Commissioner of NCES has judged that the achievement levels are in a developmental status. However, the Commissioner and the Governing Board also believe that the achievement levels are useful and valuable in reporting on the educational achievement of American students.

Definitions of the three levels of reading achievement for each of the three grades that were assessed are shown on the following page. For each grade, the definitions are cumulative from Basic through Advanced.

# Reading Achievement Levels

## GRADE 4

- BASIC** (208) Fourth-grade students performing at the Basic level should demonstrate an understanding of the overall meaning of what they read. When reading text appropriate for fourth graders, they should be able to make relatively obvious connections between the text and their own experiences, and extend the ideas in the text by making simple inferences.
- PROFICIENT** (238) Fourth-grade students performing at the Proficient level should be able to demonstrate an overall understanding of the text, providing inferential as well as literal information. When reading text appropriate to fourth grade, they should be able to extend the ideas in the text by making inferences, drawing conclusions, and making connections to their own experiences. The connection between the text and what the student infers should be clear.
- ADVANCED** (268) Fourth-grade students performing at the Advanced level should be able to generalize about topics in the reading selection and demonstrate an awareness of how authors compose and use literary devices. When reading text appropriate to fourth grade, they should be able to judge texts critically and, in general, give thorough answers that indicate careful thought.

## GRADE 8

- BASIC** (243) Eighth-grade students performing at the Basic level should demonstrate a literal understanding of what they read and be able to make some interpretations. When reading text appropriate to eighth grade, they should be able to identify specific aspects of the text that reflect the overall meaning, extend the ideas in the text by making simple inferences, recognize and relate interpretations and connections among ideas in the text to personal experience, and draw conclusions based on the text.
- PROFICIENT** (281) Eighth-grade students performing at the Proficient level should be able to show an overall understanding of the text, including inferential as well as literal information. When reading text appropriate to eighth grade, they should be able to extend the ideas in the text by making clear inferences from it, by drawing conclusions, and by making connections to their own experiences — including other reading experiences. Proficient eighth graders should be able to identify some of the devices authors use in composing text.
- ADVANCED** (323) Eighth-grade students performing at the Advanced level should be able to describe the more abstract themes and ideas of the overall text. When reading text appropriate to eighth grade, they should be able to analyze both meaning and form and support their analyses explicitly with examples from the text; they should be able to extend text information by relating it to their experiences and to world events. At this level, student responses should be thorough, thoughtful, and extensive.

## GRADE 12

- BASIC** (265) Twelfth-grade students performing at the Basic level should be able to demonstrate an overall understanding and make some interpretations of the text. When reading text appropriate to twelfth grade, they should be able to identify and relate aspects of the text to its overall meaning, extend the ideas in the text by making simple inferences, recognize interpretations, make connections among and relate ideas in the text to their personal experiences, and draw conclusions. They should be able to identify elements of an author's style.
- PROFICIENT** (302) Twelfth-grade students performing at the Proficient level should be able to show an overall understanding of the text which includes inferential as well as literal information. When reading text appropriate to twelfth grade, they should be able to extend the ideas of the text by making inferences, drawing conclusions, and making connections to their own personal experiences and other readings. Connections between inferences and the text should be clear, even when implicit. These students should be able to analyze the author's use of literary devices.
- ADVANCED** (346) Twelfth-grade students performing at the Advanced level should be able to describe more abstract themes and ideas in the overall text. When reading text appropriate to twelfth grade, they should be able to analyze both the meaning and the form of the text and explicitly support their analyses with specific examples from the text. They should be able to extend the information from the text by relating it to their experiences and to the world. Their responses should be thorough, thoughtful, and extensive.

## Overview of this Report

The two remaining chapters of this report present results expressed in terms of *average reading proficiency* and *student achievement levels*, respectively. Within each of these chapters, findings are presented for the nation, for the regions, and for states. In addition, each chapter presents national results for the major reporting subgroups described below. State-by-state subgroup results are presented in Appendix D. More detailed descriptions of the reporting subgroups are presented in Appendix B.

- ▶ **Race/Ethnicity.** Estimates are reported for students' self-identification of their race/ethnicity according to one of the following mutually exclusive categories: White, Black, Hispanic, Asian, Pacific Islander, and American Indian (including Alaskan Native). Between the 1992 and 1994 reading assessments, the student racial/ethnic subgroup question was revised. Asian and Pacific Islander categories were a combined data collection category in the 1992 assessment, preventing 1992 estimates and trend results from being reported for these categories.
- ▶ **Gender.** Estimates are reported separately for males and females.
- ▶ **Parents' Education Level.** Estimates are reported based on students' reports of the highest level of their parents' education: did not finish high school, graduated from high school, some education after high school, or graduated from college.
- ▶ **Public/Nonpublic Schools.** Estimates are reported for students attending public schools and nonpublic schools, including Catholic and other nonpublic schools.

This report examines and compares the results for groups of students defined by shared demographic characteristics or responses to background questions (e.g., males compared to females) and does not include an analysis of the relationships among combinations of these groups (e.g., White males compared to Black males).

The means and percentages presented in the report are *estimates* because they are based on samples rather than the entire population(s). As such, the results are subject to a measure of uncertainty, reflected in the *standard error* of the estimate. Although standard errors are not provided with the estimates presented in this report, a full set of standard errors will be available in future NAEP reports. The significant differences presented in the following chapters take into account the standard errors associated with the estimates.

The comparisons presented in the report are based on statistical tests that consider both the magnitude of the difference between the group means or percentages and the standard errors of those statistics. The report presents significant differences (1) among the estimates for the reporting subgroups in the 1994 assessment and (2) between 1992 and 1994 results. Throughout this report, differences are defined as significant when they are significant from a statistical perspective. This means that observed differences are unlikely to be due to chance factors associated with sampling variability. All differences reported are statistically significant at the 0.05 level with appropriate adjustments for multiple comparisons. The term "significant," therefore, is not necessarily intended to imply judgment about the absolute magnitude or educational relevance of the differences. The term is intended to identify statistically dependable *population* differences as an aid in focusing subsequent dialogue among policymakers, educators, and the public.

This report also contains a series of appendices. Appendix A provides information about sampling and participation rates. Appendix B includes descriptions of the reporting subgroups. Appendices C through E provide cross-state tabular summaries related to the 1994 Trial State Assessment Program in Reading. Detailed information about measurement methodology and data analysis techniques will be available in the forthcoming *NAEP 1994 Reading Report Card* and the national and state technical reports.

## Cautions in Interpretations

The reader is cautioned against making simple or causal inferences related to subgroup membership, effectiveness of public and nonpublic schools, and state educational systems. For example, differences observed among racial/ethnic subgroups can almost certainly be associated with a broad range of socioeconomic and educational factors not discussed in this report and possibly not addressed by the NAEP assessment program. Similarly, differences between public and nonpublic schools may be better understood after accounting for factors such as composition of the student body, parents' education levels, and parental interest. Finally, differences in reading performance among states most likely reflect an interaction between the effectiveness of the educational programs within the state and the challenges posed by economic constraints and student demographic demands.

## Endnotes

1. P.L. 103-382. Improving America's School Act of 1994.
2. *Education Achievement Standards, NAGB's Approach Yields Misleading Interpretations*, United States General Accounting Office Report to Congressional Requestors (Washington, DC: United States General Accounting Office, June 1993.) GAO/PEMD-93-12 Educational Achievement Standards.  
*Setting Achievement Levels for the Nation*, The second Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment, 1992 Trial State Assessment (Stanford, CA: National Academy of Education, 1993.)
3. American College Testing, *Technical report on setting achievement levels on the 1992 National Assessment of Educational Progress in mathematics, reading, and writing* (Washington, DC: National Assessment Governing Board, 1993.)  
Cizek, G., *Reactions to National Academy of Education report* (Washington, DC: National Assessment Governing Board, 1993.)  
Kane, M., *Comments on the NAE evaluation of the NAGB achievement levels* (Washington, DC: National Assessment Governing Board, 1993.)  
American College Testing, *NAEP Reading Revisit: An Evaluation of the 1992 Achievement Levels Descriptions* (Washington, DC: National Assessment Governing Board, 1995.)